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ABSTRACT

Changing the roles of health workers in schools is critical if children's mental health needs are to be met. School psychologists must move beyond their traditional gatekeeping roles and engage in consultation, research, program development, and in-service training to help schools in the future. It may be possible to meet both peer consultation and professional development needs of school psychologists through technology, while at the same time providing practitioners with the impetus to change. School psychologists need to help plan how technology will be used in working with students, particularly if computer assessment is to be part of the future. Leaders in school psychology feel it is extremely important to have supportive colleagues, and the growing role of the Internet in electronic consultation and collaboration is meeting that need. Peer consultation allows counselors to improve their skills, breaks the isolation some feel at their job, and provides feedback for problem solving. Professional development needs are universal and the Internet is one means to unify the outreach to school psychologists everywhere. (Contains 85 references.) (JDM)

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International Consultation, Professional Development and the Internet: School Psychology Practice and the Future

by

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International Consultation, Professional Development and the Internet: School Psychology Practice and the Future.

Gayle L. Macklem, Rachel Kalinsky & Kristin Corcoran

Changing the roles and numbers of mental health workers in schools is critical if children's mental health needs are going to be met. School psychologists, in particular, need to take on more contemporary roles. It now appears as if it may be possible to meet both peer consultation and professional development needs of school psychologists through technology, and at the same time, provide practitioners with the impetus to change.

Moving Beyond the Traditional Role

The future of school psychology depends on our being able to demonstrate that school psychologists can help schools in a number of ways, well beyond traditional gate-keeping duties. School psychologists continue to struggle with role limitations due to the fact that special education has expanded, and also because perceptions of what school psychologists do continues to be restricted (Ruskowski & Perticone, 2000). Many people still maintain that the school psychologist's sole function is to complete testing within the special education process.

As we broaden what "assessment" means, we must realize that we are addressing both educational and health needs in schools (Bardon, 1994). Indirect service including consultation, research, program development and in-service training are role responsibilities that school psychologists need to engage in more frequently. School psychologists may be well aware that research, data-based decision making, and program evaluation are needed but role change is slow in coming for a variety of reasons (Bradley-Johnson & Dean, 2000). At the same time there is hope, as individual school psychologists move into roles that are more contemporary (Bracken, 1999). As the needs of society have changed, school psychological services have expanded to meet those needs. The demand for increased services will continue as schools try to meet the educational and emotional needs of all children (Kamphaus, 1995).

Facing a Shortage of School Psychologists

The future holds both problems and promises. We may be facing a shortage of school psychologists in the near future. For example, surveys show that significant numbers of school psychologists are retiring in the United States (Thomas, 1999). This potential shortage can be considered positively, emphasizing the need for training programs at the graduate level, and indicating a strong job market for school psychologists (Lund, Reschly & Martin, 1998). However, among the negative consequences of such a shortage, is the potential compromise of standards for entry into this profession as well as the lack of progress in expanding the role of school psychologists. Because the need for additional practitioners is greater than applicants to training schools, there is a need for ways to attract new applicants for these programs and to look at alternative training routes (Miller & Palomares, 2000).

Efforts to recruit more individuals to the field of school psychology can begin by increasing public awareness about school psychology as a profession. Within and outside of schools, many do not understand the role of the school psychologist because of its lack of visibility. Miller and Palomares (2000) offer recruitment strategies, such as identifying undergraduate "feeder" programs, making more people aware of the available graduate training programs, and adapting programs to meet the needs of more students. As the requirements for entry into the profession increase, more and more school psychologists are seeking doctoral degrees and post-doctoral training (Kamphaus, 1995). If this trend persists, one wonders how state certification regulations may be altered and how this could affect the enrollment in school psychology training

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programs. However, many still consider school psychology to be a non-doctoral profession, that is separate from others within the field of psychology (Bardon, 1994).

Keeping Abreast of Changes

Educational reform affects the work of school psychologists. Psychologists' knowledge about learning and the ways schools can be more productive can contribute to such reforms (Sarason, 1997). Some believe that one of the biggest threats to school psychology is a lack of power to change what is wrong in schools (Sarason, 1997; Dawson, 1994). State, national and international school psychology associations must support individuals in the profession to help them make changes both in the structure of schools and also in the support provided to children. By focusing on the social context of education, one can approach school reform using a relational approach. School psychologists can advocate for such school models as a way to address the needs of school children academically, behaviorally and psychologically (Baker, Terry, Bridger & Winsor, 1997).

With the ongoing social and political changes in society, school psychologists and other school personnel are faced with a greater need for preventative work within the education arena. Exposure to violence in the community and in schools has become a primary concern in the United States. The impact of disasters from a variety of sources including weather, accident, illness or violence is better understood today. We know that exposure to violence is related to mental health issues in children (Mazza & Overstreet, 2000). School psychologists must begin to reduce the impact of violence on at-risk students by helping students develop protective behaviors and to develop strategies with which to cope with continuing violence. Knoff (2000) sees school psychology moving in the future toward developing prevention programs, which will address safety, behavior management and discipline. There have been many school-based programs that were developed in the last decades of the twentieth century to address the importance of mental health issues in education (Pfeiffer & Reddy, 1998). School psychologists are a valuable resource within such programs, integrating their knowledge with other school personnel and community agencies in order to focus on prevention, treatment and the general wellness of youth in schools.

Technology's Influence on School Psychology

Uses of Technology by School Psychologists

Technology is part of the present and is most certainly part of the future of school psychology. In 1999, technology in the fields of education and psychology was a focus at the National Association of School Psychologists Annual Convention in Las Vegas (Macklem, 1999). New ways in which computer technology can help those in the field were presented. School psychologists are using technology to some extent already. They use computers for word processing, to score tests and to collate data. They prepare newsletters and reports using the computer. School psychologists use e-mail and web pages to share information and to communicate with others through listservs. School psychologists use the Internet to search for information about disabilities and to locate self-study guides available on professional organizations' web pages (Pearrow & Macklem, 1998).

As schools are beginning to use technology, school psychologists may want to be involved in the planning of how technology will be used in work with students, particularly if computer assessment is to be part of that future (Taylor, 2000). The future may involve computerized ability tests, which will include sophisticated measures such as precise reaction time. Given that certain achievement measures (i.e. entrance exams) and neuropsychological instruments can be administered via a computer, there may be a growing trend toward this type of test administration. However, Kaufman (2000) feels that only a "radically different and new methodology" would entice school psychologists to move away from their traditional tests with their extensive

research bases. School psychologists should also be kept abreast of the ways that assistive technology can help students with disabilities and what types of software programs are being integrated into classrooms.

Benefits of the Internet to School Psychology

The Internet gives tremendous access to information and resources. It allows for collaboration and networking with peers, continuing education and long distance learning (Taylor, 2000). There are an increasing number of on-line courses being offered, in psychology and other disciplines, opening up opportunities for people who may not have geographic access to a training program (Roberts, Blakeslee, Brown & Lenk, 1990). The Internet is a potential time saver in research projects. It has already been demonstrated that researchers can post questionnaires on the World Wide Web (WWW) and get fast responses, which saves mailing costs and reduces data entry errors. In spite of the limitations of data collection on the WWW, this method can be an efficient means for psychology data collection (Pettit, 1999). The Internet has been used, by authors of journal articles and papers, to compose and revise work from start to finish through numerous drafts using e-mail, so that the entire article is completed online (Roberts, Blakeslee, Brown & Lenk, 1990). Counseling applications through the Internet have been developed including opportunities for supervision, collaboration and conferencing, as well as collecting data for research and establishing bulletin board systems and listserve to exchange information, (Sampson, Kolodinsky & Greeno, 1997).

There are numerous resources available to psychologists through the Internet, but only a small number of web sites that are specifically designed for school psychologists. Among them, *The Global School Psychology Network* has a website (www.dac.neu.edu/cp/consult/index.html) that provides a description of the various professional development options GSPN offers as well as helpful resources for parents and practitioners, including links to related sites. *School Psychology Resources Online* is an extremely thorough, well-organized site with links to various topics of interest to psychologists, educators and parents and can be reached at www.schoolpsychology.net. The *WWW School Psychology Homepage* (http://facpub.stjohns.edu/~ortize/spwww.html) is sponsored by St. Johns' University and offers many resources for school psychologists, including information about training programs, legal resources, as well as an annotated bibliography of internet resources for counseling and school psychology. The *School Psychologist's Home Page* (www.bartow.k12.ga.us/psych/main.htm) is sponsored by the Bartow County School System in Georgia and offers educational links, common questions asked of school psychologists, forms and paperwork, and information about crisis intervention. By logging onto the website, *What is a School Psychologist?* (www.bsi.dsu.edu/jungem/married.htm) one can find out more about this profession and opportunities to pursue this career. There are also websites for state associations, NASP and ISPA, as well as sites to access school psychology journals.

Ethical Issues Regarding Internet Use

Apart from its benefits, use of the Internet also poses ethical issues. There are potential problems using e-mail for consultation with peers, parents and other professionals. It is not too soon to look at the possibilities for ethical violations that could conceivably occur using e-mail to help students (Brown, 2000; Harvey & Kruger, 1999). When computer use was becoming more common among psychologists, there were concerns about the validity of computer-based interpretive reports and their potential substitution for psychological assessments (Sutkiewicz, 1997). For counseling applications, there have been identified risks to using the Internet. There are concerns about the level of confidentiality regarding clients' histories, the validity of information transmitted electronically, the credentials of counselors and the inability of some individuals to access computer networks, due to hardware and Internet access costs (Sampson, Kolodinsky & Greeno, 1997). Certain databases may not provide accurate information. One should learn whether a website is reputable before gathering data in order to make sure that the information is reliable (Brown, 2000).

As a way of dealing with the ethical problems posed by electronic communication, the research team of the Global School Psychology Network devised a set of guidelines for participants to follow. The guidelines include the following which address a variety of issues.

1. Leave important decisions about cases to face-to-face meetings,
2. Use e-mail for generating possible alternatives,
3. Remember that many social cues are absent when using electronic mail. Phrases might be misconstrued as being critical, insulting or dismissive,
4. Sometimes, it is easier to clarify an issue with a brief telephone conversation or an in-person meeting than e-mail,
5. Do not use information that will lead to the possible identification of a student, client of colleague. Use a pseudonym in place of the actual name, and
6. If you use a computer that is accessible to other individuals, do not leave your 'user id' or 'password' on the computer. If you do, other people can log on to your account.

(from Kruger & Macklem, 1999, p. 20).

Consultation in School Psychology

Electronic Consultation and Collaboration

Leaders in school psychology feel that it is extremely important for school psychologists to have supportive colleagues to turn to who share a similar way of thinking and who share similar visions (Dawson, 1994). Computer-mediated collaboration is disseminating rapidly in education, business and professional circles. Because computer-mediated communication is thought to be one of the main influences that are changing the way we learn, electronic collaboration in education is being studied intensely by a small, but increasing number of researchers (Kirkley, Savery, & Grabner-Hagen, 1998).

Online environments can promote group interaction, which makes them very useful for collaborative learning (Bonk & Cunningham, 1998). Interestingly, in organizations when use of e-mail increases, the other means of social interaction tends to decrease (Kirkley, Savery, & Grabner-Hagen, 1998). This suggests that the social interactional effects of Internet use need to be studied.

Consultation as Technology and Computer Mediated Consultation

Computer mediated consultation via the Internet is a relatively new aspect to the field of consultation, but it seems to have very positive results. It is an exciting and new avenue for school psychologists to use as a way of consulting with peers around the world. Every school psychologist who is able to connect to the World Wide Web has the capacity to access voluminous information and resources, which can help make his/her job easier, and in turn can become more knowledgeable and adept in the field. The Internet helps enhance consultation and in addition, has the potential to address professional development needs as it affords distance learning (Adelman, & Taylor, 2000).

Computer-mediated consultation has tremendous potential for reducing one of the more significant barriers to using consultation as a method of service delivery. Time appears to be a major barrier for school psychologists' ability to consult with others in the field. Some school psychologists may also feel isolated and work in a system that only has a limited number of school psychologists. Communicating via the internet allows a building based school psychologist to consult with others without having to meet face-to-face at every meeting. Not only does this form of communication help with time constraints, but it also provides the opportunity for individual professionals to consult with school psychologists all over country. Consultation between school psychologists and teachers has received more attention by researchers than consultation

between school psychologists and parents. Less work has been done on peer mediated consultation than on other types of consultation (Macklem & Kalinsky, 2000).

The Future of Consultation

Consultation is most likely going to increase in the future because of students' needs, and both teachers and school psychologists want to see consultation services increase (Stenger, Tollefson, & Fine, (1992). Consultation is not only going to increase in the schools, but also with outside agencies and other service professionals (Bradley-Johnson, & Dean, 2000). The future holds very promising indicators that the practice of consultation is on the rise. Enhanced peer consultation is becoming a more popular method for professionals to use as an aspect of consultation. The use of technology is another way to facilitate consultation, which includes peer consultation. Although these concepts are relatively new to the field, there is research that indicates their effectiveness for school psychologists.

Peer Consultation

Peer consultation is important for several different reasons. Since many school psychologists are relatively isolated from their peers, this provides them with the opportunity to consult with others in the field. It also provides school psychologists with the ability to update their skills and meet the demands of their jobs. Peer consultation is also beneficial for new practitioners who may need assistance in one or more aspects of their work where their training may have been lacking (Macklem & Kalinsky, 2000).

For many professional school psychologists, there is a limited amount of supervision by qualified supervisors. However, peer consultation has been seen as a potentially very effective means to increasing support available to practitioners. Spice and Spice (1976) introduced the triadic model of peer supervision for school psychologists. In this model, counselors work together in triads rotating the roles of supervisee, facilitator and commentator. In this potentially valuable model, school psychologists must be willing to assume responsibilities similar to that of a supervisor.

One advantage of peer consultation is that it focuses on helping each participant reach a desired goal, rather than evaluating each other. Peer consultants are responsible for providing feedback, and support to a colleague: however, they have a greater responsibility to evaluate their own performance, which contrasts with the traditional model of supervision.

Peer consultation occurs when peers work together for mutual benefit. The consultants provide both critical and supportive feedback, but importantly it does not involve evaluation. The term peer consultation is used to describe similar relationships that are nonhierarchical in nature, so that neither individual has the power or responsibility to evaluate the other's performance. Peer consultation offers numerous benefits to school psychologists (Macklem & Kalinsky, 2000).

1. Decreased dependency on experts,
2. Greater interdependence of colleagues,
3. Increased responsibility for assessing one's own skills and those of peers,
4. Opportunity to structure one's own growth,
5. Increased self confidence, self-direction and independence,
6. Development of consultation skills,
7. Use of peers as models,
8. Ability to choose the peer consultants, and
9. Elimination of evaluation and supervisory responsibility.

(Benshoff & Paisley, 1993)

In order for the peer consultation process to be successful, individuals must be motivated, commit to scheduled meetings and must be open to giving and receiving positive and negative feedback. It is important to provide and receive constructive criticism to help improve skills for each individual involved in the process.

Research indicates that the two aspects of peer supervision that have been seen as potentially valuable are: receiving feedback from peers about counseling techniques and approaches and the actual peer support and guidance, which involved encouraging one another (Benshoff, 1992). In the case of peer consultation, both feedback and support appear to be very important.

Professional Development Needs in School Psychology around the World

Need for Professional Development

Some reviewers feel that school psychologists in the United States have more professional development opportunities than were available in the past. Others (McIntosh & Phelps, 2000) seem to feel that more professional development is needed. Those who feel that more is needed, suggest that peer supervision is a way to help school psychologists meet professional development needs. They advocate for professional development credit for supervision. One complication of supervision is the fact that it sets up hierarchical relationships, which may involve evaluation and this might dampen opportunities for growth.

The field of school psychology is quite diverse. Many school psychologists are isolated in their work with little access to other school psychologists. Laws that effect practice are changing along with societal change. These changes show that there is continual need for training for practitioners (Harvey & Struzziero, 2000).

School psychologists around the world seem to be dealing with many of the same issues. For example, school psychologists in France are currently dealing with the same issues that school psychologists are struggling with in the United States and elsewhere (Bartarseh, 1999). Issues such as bilingualism, distinguishing disabled readers from weak readers as a result of poor instruction, and the dynamics of behavior problems appear to be widespread concerns. School psychologists in New Zealand are addressing issues such as clinical interventions and crisis interventions, ethical and legal issues, consultation and school culture. Again, these concerns are familiar issues to school psychologist's worldwide. The concerns are not only child centered, but involve job duties. School psychologists in the United Kingdom tend to concentrate on cognitive and educational assessment because of special education mandates just as in the United States, and yet they want to be able to use the many skills that they have been trained to perform (Galloway, 1998; Sheppard & Dawson, 1998). Role issues are key topics of discussion in France, Greece, Russia and the United States (Bartarseh, 1999; Hyman & Kaplinski, 1994; Oakland, 1996; Psalti, 1995;).

Professional development needs are universal. The need may be especially critical in countries where school psychology is a relatively new field and professionals are working toward acceptance of their services as in Hungary, Russia and Greece. Professional development is also a critical need in areas where the field has a longer history (Oakland, 1996; Pluymert, 1997; Psalti, 1995). In the United Kingdom, educational psychologists are urged to attend to their own personal development and emotional development needs (Indoe, 1998).

In some areas of the world, specific plans are in place for professional development. In the United States, the National Association of School Psychologists has published a text on supervision by Harvey and Struzziero (2000), who advocate for supervision as a way to prevent "professional stagnation" and to improve services (p. xii). At Massey University in New Zealand, professional development mentors work with interns to develop individual professional plans. The program has been developed to enhance professional development through collaborative projects, consultation with experts, group preparation of journal articles on the internet, and consultation that is mediated through the computer, for support and supervision (Ryba, Pine, Mentis & Bowler,

1999). Ryba and Selby (1999), educational psychologists from New Zealand, envision a global training community for school psychologists via the Internet.

Computer-Human Interaction Studies

There is considerable interest at present in the social context of learning. This body of work suggests that it is critical to develop more participatory, learner-centered environments (Bonk & King, 1998). Contemporary models of education stress constructivist approaches, which are expected to replace the traditional model where the teacher is the transmitter of information to the learner (Bink & Cunningham, 1998).

A number of computer-human interaction studies are underway. Studies of collaborative writing mediated by the computer; for example, have lead to the development of taxonomy of five levels that can help define interaction-writing tools:

Level 1 involves electronic mail and delayed messaging tools,
Level 2 involves delayed conferencing/collaboration and remote access tools,
Level 3 depicts real-time dialoguing as in chat rooms,
Level 4 is a higher level as two or more individuals' work on text concurrently,
Level 5 is described as cooperative hypermedia in that graphics, video or other features are added to concurrent collaboration.

(Bonk & King, 1998).

What interests researchers on collaborative writing, is how the technology tools will impact the participants; i.e., the human interaction. Initial findings suggest that both synchronous and asynchronous computer collaboration efforts can have advantages over face-to face discussions when one member of the dyad has more expertise than the other, as in professional development situations or coaching or mentoring relationships. Those advantages include:

-more engagement in learning,
-greater depth of discussion,
-increased time on task, and
-facilitation of higher order thinking

(Bonk & King, 1998, p. 20).

Computer-Supported Collaborative Learning

A specific sub-field of computer-human interaction studies involves computer-supported collaborative learning. Instructional environments, which utilize technology, involve learner-centered principles such as social interaction, interpersonal relations and communication with other learners. In fact, some researchers' feel that the success of learner centered instruction depends on using collaborative technologies where groups can be formed based on common interests (Bonk & Cunningham, 1998). The theoretical underpinnings for use of collaborative technologies for learning include Piagetian inspired cognitive constructivist principles, and the Vygotsky inspired social constructivists. Social constructivists are concerned with dialogue, interaction and collaboration. Both points of view are thought to promote generative learning.

Sociocultural objectives match the contemporary learner-centered goals of education. These objectives include designing important learning experiences from the point of view of the learner and focusing on collaboration and mentoring as part of those experiences. Sociocultural theory promotes the ideas that learners construct knowledge when they interact, or engage in social dialogues, with others (Kang, 1998).

Professional Development Theory

In the field of education in the United States, there is a history of professional development programs that have not worked, principally because the programs have not been sustained over time (Cooper & Boyd, 1998). Researchers have noted that presenting information alone does not sustain a change. Studies of professional development methodology indicate that not only presenting information in isolation, but also modeling and demonstration, measured in isolation, tend not to result in changes in practice. When adults try out new skills using simulation the result is improved learning, but only when new skills are simple. Feedback, particularly if it is structured, results in changes in professionals' behavior. Coaching specifically, has resulted in the most sustained results in assisting professionals to translate new knowledge into practice, and this works best if some of the other instructional methods are combined with coaching (Gravois, Rosenfield & Vail, 1999; Sprinthall, Reiman & Thies-Sprinthall, 1996). Although there are disadvantages to mentoring such as the difficulty of matching novice to experienced school psychologists, the advantages of mentoring include more freedom for the developing professional, a good deal of support for the novice, and benefits to both individuals participating in the relationship (Harvey & Struzziero, 2000).

Theories of adult learning suggest that as individuals develop professionally, they go through various levels. Stages of professional development have been identified in several professional fields of study. Studies of psychotherapists (reported in Guest, 2000) suggest six stages of development: excitement and anticipatory anxiety, dependency and identification, activity and continued dependence, exuberance and taking charge, identity and independence, and the sixth stage, calm and collegiality (p 238). Steffy, Wolfe, Pasch, & Enz (1999), in reporting on the stages of teachers' professional development, list novice, apprentice, professional, expert, distinguished and emeritus. Dreyfus and Dreyfus (reported in Harvey and Struzziero, 2000) have suggested five levels of development: novice, advanced beginner, competent, proficient, and expert.

Stages of professional growth and development may not be exactly the same for school psychologists as for other professionals, and there are researchers looking at this question (Guest, 2000). Yet, given the similarity of ideas about adult development, the stages are likely to be similar. Given this caution, within these theories an individual might function at a different growth level for each of the several sub-role responsibilities involved in a given job. It is at the proficient level that reflection becomes prominent in practice (Harvey & Struzziero, 2000). However, many practitioners do not grow beyond the competent level into the proficient and expert levels, possibly because of the lack of stimulation through professional development.

Vygotsky's work suggests that adults grow cognitively when they interact through discussion in social groups. In addition to what the individuals bring to the task cognitively, and an open climate or a facilitating environment, seems to be needed. More specifically, the way in which the facilitating environment works is dialoguing or collaborative reflection with supportive peers in order to support generalization of learning (Cooper & Boyd, 1998; Sprinthall, Reiman & Thies-Sprinthall, 1996). Studies of training programs with school counselors show that guided reflection and support has the effect of stimulating cognitive growth and supervisor skills (Sprinthall, Reiman & Thies-Sprinthall, 1996). This type of relationship and environment looks as if it may facilitate professionals moving to higher personal levels of development.

Theories of the career cycles of educators, suggest that there is a decrease in satisfaction around the midpoint of the job cycle. Becoming a mentor or resource to other professionals is a role change that might prevent this slump. At the highest levels of adult personal development, educators desire to be facilitators of change, or models capable of reflective judgement. In order to reach the highest levels of adult stages growth, educators need to continue to learn and engage in ongoing professional development because adults who function at higher stages of development perform more competently when presented with complex tasks (Sprinthall, Reiman & Thies-Sprinthall, 1996).

Professional development, when it is thought of as cognitive-developmental instruction, suggests that the key elements include the opportunity for taking on a role such as mentor (peer coach or leader) balanced with reflection and dialoguing. This effort must be sustained over time, and individuals experiencing this growth must be supported through collegial or collaborative groups (Sprinthall, Reiman & Thies-Sprinthall, 1996).

In order for growth to occur, professional development must be: sustained over time, part of a network of individuals with similar interests must be developed, dialoguing must occur on a regular basis, relationships must be trusting, there must be opportunities to take the role of teacher/leader/mentor/coach, and reflection must be guided (Brody & Davidson, 1998).

Professionals must develop and maintain competencies in communicating, and in relationship making, in order for collaboration to work. Offering assistance is a critical component of collaboration. At the highest levels of professional development, interactive professionalism takes place. Interactive professionalism refers to "reflection about practice", along with an assumption of improving one's skills on a life-long basis (Gravois, Rosenfield & Vail, 1999, p. 159).

Examples of Professional Development Communities

Learning Communities

Professional collaboration is a special relationship between individuals. The collaborators must support the professional independence of one another, and appreciate differences of opinion. When a group of professionals are involved in collaboration, they might be thought of as a collaborative community. In a collaborative community, each individual receives and gives assistance making a genuine contribution. Some writers feel that as our technology has become more and more interactive, that communication via computer has the potential to contribute to the re-organization of the learning process itself (Bonk & King, 1998).

Developing communities of learners is a new goal in education. Forest (1998) has defined community as "an inherently cooperative cohesive and self-reflective group entity where everyone feels they belong, and whose members work on a regular, face-to-face basis toward common goals while respecting a variety of perspectives, values, and life styles" (p. 292). In a community of learners, diversity is respected. In order to develop a community of learners, interaction must be sustained around common interests, valuable experience must be shared, and getting one's needs met is critical. There may be sub groups, or small learning groups, within the larger community. Forest also notes (p. 302) that a successful community is able to demonstrate itself as a model for others.

Communities of learners, communicating online, build collective knowledge. When establishing learning communities that are truly collaborative, the concept of 'teacher' is reformulated (Brody & Davidson, 1998). The online discussion leaders assist and support the learning of others rather than direct the learning of others, through instructional conversation. The role of collaboration in learning enhances each learner's ability to receive information from several perspectives, and allows learners to experiment with ideas and generate new insights. The social nature of learning becomes very clear, as does the need for communities of practice (Bonk & Cunningham, 1998).

Research has been conducted on the various aspects of collaborative computer technologies. Chat areas for example, have discussion threads with some discussion focused and other discussion off-track or social. This is referred to as 'noise' because it interrupts the flow of the conversation. There are different levels of participation. For example, whereas some individuals contribute a high number of messages, others read but do not contribute. This phenomenon appears to be common in computer-mediated communication. These individuals are often referred to as 'lurkers' (Bonk & King, 1998). In a chat room, the discussion can be very confusing for some participants because it is difficult to keep track of the key conversational thread at times.

Communicating by e-mail has been found to: level the invisible hierarchies between participants, support and promote teamwork, and attract individuals within organizations who might not otherwise actively participate. E-mail promotes exchanging information through collaborative networks (Kirkley, Savery & Grabner-Hagen, 1998). A series of studies of electronic communication in graduate courses at a university in the mid-west region of the United States have looked at the effects of computer-human interaction. It was found that when the instructor acted as a facilitator of student learning, students who communicated via e-mail returned messages to the whole group rather than to a specific individual most of the time (Kirkely, Savery, & Grabner-Hagen, 1998). Frequency of messages over time increased and then decreased. Important side discussions took place so that a wider group of topics were discussed than would have been covered if the group had been engaged face-to-face. Men contributed more than women contributed, and native speakers sent the majority of messages. Finally, many of the participants did not send messages although they read the messages sent by others.

Communication via e-mail results in shorter messages than FTF communication. Yet over time, social effects take place. E-mail users even make up for the lack of nonverbal messages by creating signs to communicate emotions. In fact, one point of view suggests that emotion in computer-mediated communication can be more intense than in FTF communication because participants build stereotyped and idealized images of frequent discussion partners. Self-awareness and objectivity is enhanced when nonverbal cues are missing (Kang, 1998). In a longitudinal study in Korea, which also involved students, group cohesiveness developed and participation was more equal than in FTF discussions. When chat exchanges were made, students took on roles in the process naturally, such as 'summarizer' (Kang, 1998).

One of the key components in this series of studies is collaborative learning to foster social interaction and transformative dialogue. Transformative dialogue is interactive, addresses real problems, encourages the formation of hypotheses and explanations and develops common understandings. Communities are developed that build knowledge as participants learn from each other (King, 1998).

Professional Development Communities

One example of an online community is TAPPED-IN. TAPPED-IN is a research project, which was designed by the Center for Technology in Learning in Menlo Park, California, USA. It went on-line in 1996. The vision was based on the fact that teachers do not have time for significant professional development or to participate in learning communities. Technology would serve as a skeleton on which to build a professional development community for this group of educators (Schlager, Fusco & Schank, in press). FTF sessions as well as both asynchronous and synchronous activities using the computer are involved.

Some of the data that the project is generating has been posted on-line. Participation is an interest of these researchers and they have found that 10 to 20% of those who have become members in TAPPED IN log on each month, with more activity during the week than on weekends. They have also found a number of volunteers to help man the services they offer, and these individuals are described as 'elders' of the community (Schlager, Schank & Fusco, 1999; SRI International, 2000). Initial findings of these studies indicate some of the components of a successful on-line community for teachers include meaningful online activities, incentives and awards for participation, mentoring for new users and support services for every member of the community, and informal networking (Schlager, Fusco, & Schank, 1999). The initial barriers to participation have been attributed to technology by new members, but researchers are finding that there are social barriers as well which have been described as akin to being a tourist in a different country at the busiest time of the day (Schlager, Fusco & Shank, 1998).

The Global School Psychology Network (GSPN)

Sprinthall, Reiman & Thies-Sprinthall (1996) assert that field-based professional development of educators is "about as difficult a problem to solve as exists" (p.699). In stepping up to the plate to meet this challenge, a group of researchers under the capable leadership of Louis Kruger, Psy.D. a professor at Northeastern University in the USA, have been working to develop a global professional development online community for school psychologists. The research described in this paper makes the challenge of developing such a community quite clear:

1. We do not as yet fully understand the stages of professional development for school psychologists specifically, although we have some ideas about the adult development of other professional groups.

2. We do not yet understand for which school psychologists, at which stage of development, would most benefit from online professional development activities.

3. We do not yet understand whether or not school psychologists at differing levels of personal and professional development would have needs for differing types of support and different professional development activities.

4. We do not yet know whether participation in an online community will effect the day-to-day practice of school psychologists.

When the network began in 1994, it was not yet known whether or not a community of professional practice could be established on the Internet, because this had not yet been demonstrated. Research was the critical issue from the beginning. The first year, classroom teachers were paired with school psychologists to form consultation dyads via the Internet. The classroom teachers in the project presented children's issues and the school psychologists associated with the project, using a behavioral model, served as consultants giving each teacher feedback, support and specific assistance in child management and other issues. The goal was to improve teacher knowledge and to reduce feelings of emotional isolation that many teachers experience. This initial thrust of the project showed that the classroom teachers did experience support as well as specific assistance (Kruger & Struzziero, 1997; Kruger, Struzziero, Kaplan, Macklem, Watts, & Wetsel, under review).

In 1997, the focus of the project shifted to investigate whether or not it would be possible to establish a professional development community on the Internet that would be open only to school psychologists all over the world. Also in 1997, the new Massey University Educational Psychology Training Programme of New Zealand joined the Global School Psychology Network. Graduate students and university staff were provided with their own folder or 'neighborhood' and participated in the other discussion groups available through the project (Ryba, 1999). Ken Ryba (1999), a member of the GSPN research team in New Zealand, concluded that the GSPN dialogues represented a network of knowledge. Students could access this knowledge through scaffolding so that they could grow personally and professionally. Focusing on forming the community was as important as content and training activities. The network was opened to state and national associations of school psychologists as well.

The new focus of the GSPN research team became whether or not it would be possible to demonstrate if individuals, who communicate, primarily via the Internet, could experience a sense of community. If this were possible, then we wanted to identify the factors that would lead to a sense of community, and which of those variables would be most important. The research team was also interested in how school psychologists would evaluate the GSPN as compared to other professional development opportunities (Kruger & Macklem, 1999).

Data from the first year indicates that 84.4% of the respondents were from 21 states in the USA, and the other 15.6% of participants were from New Zealand, Israel, and Greece. Recruitment efforts were strongest in

Massachusetts and New Zealand with the help of Massey University colleagues. Between October of 1997 and June of 2000, 343 school psychologists logged on to the network. In June of 2000, 25% of the participants lived in countries other than the United States (Kruger, personal communication via e-mail, 6/30/2000).

The GSPN is accessible to school psychologists with special software by FirstClass, developed by Centrinity, Inc. (http://www.centrinity.com). A school psychologist can join the network at no cost by: 1) agreeing to the ground rules akin to being a good neighbor, 2) agreeing to complete surveys, and 3) agreeing to allow messages to be used for research purposes. Once this is accomplished, a desk top appears with numerous choices. Each participant joins a small neighborhood and also is given access to the Community Forum, an open discussion group. Another large open area is the 'Theme of Month' folder. The network also offers free on-line mini courses and study groups, a resource library, a project updates folder, something akin to a yearbook with biographical notes prepared by members, several association folders and private mailboxes (Macklem, Kalinsky, & Kruger, 1999).

It is interesting that many of the problems in establishing an on-line community that SRI International experienced have also been observed to occur on the GSPN. For example, a smaller percentage of individuals log on regularly than actually belong to the network and new and potential members attribute problems to technology. Although the communities have developed totally unaware of each others work, some of the same components have been established including:

1. giving space to associations (Massachusetts, New Jersey, and APA on the GSPN), commandeering volunteer leaders,
2. hosting on-line events,
3. presenting Topics of the Month for discussion,
4. offering courses and setting up chats in real time.

There are two apparent major differences between the two communities. First, SRI International holds conferences and live workshops to attract participants but the GSPN has not used this method of attracting participants. And second, from the beginning, the GSPN has had a governing board with clear rules for participation to maintain a welcoming and accepting atmosphere on-line whereas, SRI International has not (Kruger, personal communication; Schlager, Fusco, & Schank, 1998).

Findings to Date from the Research

The early data from the GSPN has indicated that it is possible to design and implement a professional development community on the Internet. Survey data clearly demonstrates that a 'sense of community' can be established in those individuals who participate, with a greater sense of community developing among those who participate more frequently. It has been found (contrary to the apparent data from SRI International) that a sense of community can develop irrespective of whether or not individuals see each other face-to-face. Frequencies of logging on, and the number of messages sent, were both found to be related to developing a sense of community. In addition, issues such as feelings of safety, ability to influence discourse and other decisions of the community, and stimulating professional development were also important (Kruger, Shriberg, Donovan & Burgess, 2000). During the 1999-2000 school year, 208 people logging on from 35 states and several countries (L. Kruger, personal communication, September 11, 2000).

Continuing research is providing additional evidence that degree of participation, and participants' feelings about the environment contribute to their own sense of community. The strongest variables have been meeting the professional development needs of participants and providing social support, and the active participation of members (Kruger, Maital, Macklem, Shriberg, Burgess, Kalinsky & Corcoran, paper under review).

Advantages of International Consultation and Professional Development Experiences on the Internet

One of the more enticing aspects of the network has been the ability to communicate with school psychologists around the world. International consultation will undoubtedly be part of the future. The GSPN has demonstrated that international consultation is possible through the first project of its kind in school psychology, the Global School Psychology Network. There are a number of advantages of international consultation from the point of view of the authors:

1. access to peers functioning at various stages of professional development,
2. access to human resources; i.e., the personal/professional experiences of peers which allows us to think,
3. 'outside the box' when problem solving,
4. opportunities to coach or mentor others, which in turn contributes to one's own professional growth,
5. opportunities to share one's own work with colleagues in other parts of the world,
6. opportunities to expand one's worldview and the way in which we view our own specific job duties which affords opportunities to expand thinking and reflect about what we do ,
7. the realization that we are dealing with many of the same issues no matter where we live, and
8. opportunities to earn professional development credits at home.

The need for professional development, the isolation of many school psychologists from their peers, the differing levels of development from novice to expert, and the frequent changes in the field of school psychology all pose a challenge for the field worldwide. The Global School Psychology Network has been designed to deal with these challenges by using technology to provide peer consultation and to facilitate the development of a sense of community among the school psychologists who participate.

Data that has been collected to date indicate that it is possible to establish a professional development community on the Internet, which offers participants opportunities for learning and professional growth through the sharing of information and through informal (e-mail messages) and formal (mini courses) mentoring and coaching relationships. Although demonstrating that growth beyond the competent level of professional development has yet to be studied using the Internet, the ingredients for growth seem to be present and participants do feel that their professional development needs can be met.

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